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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,938	02/13/2002	Yue Der Chih	67,200-489	9831

7590 05/16/2005

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EXAMINER
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BAKER, STEPHEN M

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/075,938

Applicant(s)

CHIH, YUE DER

Examiner

Stephen M. Baker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 03 December 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “respective I/O terminal” associated with “each of said plurality of columns” must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The disclosure is objected to because of the following informalities:

In paragraph [0044] "share a single column, in a more complicated design" apparently should be "share a single spare column, in a more complicated design".

Appropriate correction is required.

***Claim Objections***

3. Claim 11 is objected to because of the following informalities: method steps have been confusingly added to an apparatus claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,471,478 to Mangan *et al* (hereafter Mangan).

Mangan discloses an EEPROM “non-volatile” memory system of the ‘flash’ variety, for storing sector-sized (512-byte) data blocks. Referring to Fig. 3, a typical block (205) in Mangan’s system includes a data sector portion (207) and an overhead portion (209), both of which extend across all four rows of a block and share common column addresses (col. 5, lines 14-20). Data is preferably read one row at a time (col. 5, lines 28-29). Data transfers between the EEPROM modules and an associated storage controller occur in eight-byte ‘chunks’. Fig. 4 shows the data sector in terms of the chunks, there being 18 chunks in each of the four rows of a block.

Mangan’s overhead portion includes “repairing data” indicating the address of a replacement block, if the associated data block is defective. The overhead data is protected by ECC, as is the data block itself. Mangan’s storage controller (133) requires an “error correction coding circuit”, necessarily “enabled”, within. Mangan’s block data defects are presumably the result of defective rows or columns in the EEPROM modules (131, 132), and so Mangan’s interpreting of the overhead data is presumably to “identify and repair (i.e. appropriately substitute alternative storage cells for) defective columns or rows associated with said non-volatile memory”.

Mangan's storage controller necessarily stores ECC-corrected overhead data internally, however the internal circuitry of Mangan's controller is not shown. Thus Mangan does not show a "volatile latch" in the storage controller (133) for the internal storing required by Mangan's storage controller during interpreting of the defect information included in the overhead. Official Notice is given that using a "volatile latch" as a processor register was conventional practice at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement the internal registers of Mangan's storage controller by "volatile latches". Such an implementation would have been obvious because using a "volatile latch" as a processor register was already mere conventional practice.

Further regarding claims 3, 7, 8 and 13, the architecture of Mangan's EEPROM modules is not shown. Thus, Mangan does not show X-Y addressing in the EEPROMs. Official Notice is given that using X-Y addressing in EEPROMs was conventional practice at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement the EEPROM addressing architecture of Mangan's system by means of X-Y addressing. Such an implementation would have been obvious because X-Y addressing in EEPROMs was already mere conventional practice.

Further regarding claims 4, 14, the architecture of Mangan's EEPROM modules is not shown. Thus, Mangan does not show spare rows and columns in the EEPROMs. Official Notice is given that including spare rows and columns in EEPROMs was conventional practice at the time the invention was made. It would have been obvious

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to a person having ordinary skill in the art at the time the invention was made to implement the EEPROMs with EEPROMs having spare rows and columns. Such an implementation would have been obvious because including spare rows and columns in EEPROMs was already mere conventional practice.

8. Applicant's arguments filed 03 December 2004 have been fully considered but they are not persuasive.

The specification apparently does not provide clear support for the I/O terminal limitations added by amendment.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (571) 272-3814. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Stephen M. Baker  
Primary Examiner  
Art Unit 2133

smb